

THE IMPORTANCE OF PROTOTYPING - TEST FIT ANALYSIS AND FEEDBACK

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ABSTRACT

In the fashion design process, once the range is finalized, prototypes or samples are developed using fabric which is closer to the fabric selected for the final collection (Mckelvey and Munslow (2007)). This is done in order to evaluate the look, proportions, size, fit and fall of the garment. They are checked to evaluate the overall translation of the theme as well as its appropriateness for the market. This main aim of this study is to have an overview of the stages of converting sketches into actual garments. At this stage, it is made sure not to change the minute detail and develop the garment as per the flat specifications. The garment may undergo redesign to incorporate required changes. This is a slow and arduous, however satisfying stage for a designer as his efforts are visible. The entire study has been supported with the examples extracted from either accomplished or ongoing projects. This is also an attempt to know different methods of making prototypes using different 2D and 3D techniques. This will also give a glance on the importance of feedback and its application in the production is an important element to understand in this chapter.

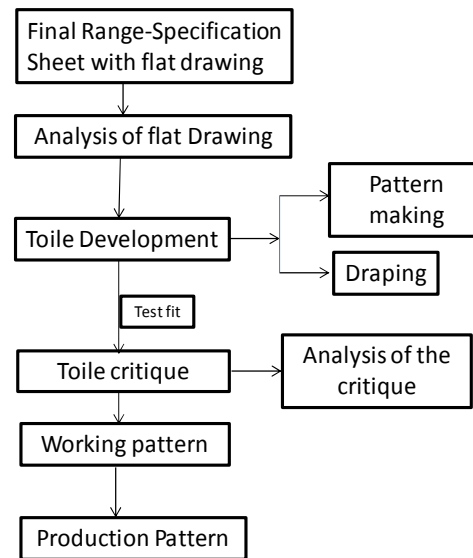
KEYWORDS: Prototyping, Toile, Toile Critique, Draping & Pattern Making

Original Article

Received: Aug 21, 2018; **Accepted:** Sep 11, 2018; **Published:** Sep 28, 2018; **Paper Id.:** IJTFTOCT20186

INTRODUCTION (PROCESS OF PROTOTYPING)

According to Asplund (2015) prototyping is the creation of a model or a mock-up of a design to test various aspects of the idea. Designers undergo extreme scrutiny while working on the design process. They take utmost care that substantial research and exploration is done to achieve the design which is intended or required by the client/market. In the end beautiful sketch/drawing is evolved out of this hard work. But unless and until the garment is realized, it is of no use. So it is important to realize a 3D form out of 2D sketch for a successful garment design project. The look of the garment is what you are supposed to achieve in the end. Whether the garment is away from the body or close to the body, it totally depends on the existing trends and designer's thought process. At this stage one need to have complete knowledge of fabric behaviour, surface ornamentation along with the pattern making, draping and garment making skills. Knowledge on appropriate use of trims, detailing and finishing will fill further enhance the complete look. All these qualities will help in putting the prototype together.



Flow Chart 1: Reflecting the Order of Prototyping

Flow Chart-1 shows the process of prototyping in a chronological order. This helps in understanding the flow of prototyping after the technical drawing is received. It starts with a complete understanding of flat drawing; the size, details, trims, fabrics, finishing etc. then a toile is made using either pattern making or draping methods (whichever is relevant). Toile is evaluated in terms of fitness and look. The feedback is applied again and working patterns are made followed by production pattern.

PROTOTYPING

So to define prototyping in the design process is the translation of two-dimensional drawing to three-dimensional product (here garment) to check and evaluate the fit and look. Since this stage is still on an Exploration level, calico or muslin is used. The fit and look are checked on the mannequin or dress form. It can also be tried on the live model to check for detecting any problems of sizing, the fall of the fabric, any distortions during movement, functioning of design details and overall look. Any kind of technical and aesthetic problems can still be rectified at this stage. If detected later, making changes would be an expensive affair. It is also checked at this stage whether it meets the market requirements. If it has been made for a specific client, they would be shown the garment for approvals and to proceed with production of the style.

To convert your idea into a design required the language of sketching; now to convert this into a 3 dimensional garment requires you to know the process of Pattern making and garment construction. The parts can be structural or decorative. Structural components are those that go into the making of the body of the garment such as front, back, collar, sleeve while the decorations are those which if removed from the garment do not affect the basic existence of the garment. These can be embroideries, trims, tucks etc. Break up your design mentally into its parts (reference: Reverse Design exercise) Here is where the module of Pattern making and garment construction comes in as well as fabric understanding and developing the surface texturing.

The prototype garment is made and fitted on a dress form or a live model. To achieve a proper balance and fit in the garment, it is important to have a good understanding of the body and its movements. You should be able to anticipate the movements the wearer is likely to go through while wearing the garment, which is affected, by the category and

function of the garment.

As a student, this is an important stage of learning for you as the difference between a drawing and actual garment can be analyzed. Certain details which look great in the sketch and functioned well in the imagination may be quite different when implemented. This can be both a pleasant or shocking surprise. It will build into you an ability to think through your designs and perceive constraints ahead of translation. Gradually over the years of practice, your sketches should begin to be closer to reality.

There are two ways to develop the first sample. It can either begin with flat pattern making or by draping the muslin directly around a dress form.

The first stage in making of the prototype is to make the patterns on paper, keeping in mind the design details in the sketch. After adding appropriate seam allowances, this is then transferred and cut on muslin for preparing the Toile.

TOILE

A sample of the garment is a pattern made and constructed first as a toile and then in actual fabrics. This is called Sampling or Sample Development. In most of the garment companies hire “toilist” whose sole job is to understand the drawing and convert them into toile. Toile is the first sample of the design made to view and evaluate the appearance, functionality, fit and fall of the garment. This requires understanding of the human body, knowledge of pattern making and experience with fabrics. Toile is generally made in muslin or any other inexpensive fabric most closely resembling the final fabric. In the case of knitted garments an inexpensive variety of single jersey may be used. The toile fabric should resemble the actual fabric in its weight, fall and stretch to achieve a closer approximation of desired results. It may also be necessary to see the exact impact of design after construction if there are specific effects planned. e.g. If a play of stripes is being used to create illusions in the garment, it would not make sense to simply make the toilet in muslin. It is better to make it in a striped fabric to be able to see the mitering and modify any mistakes at this stage itself. To change in the final garment may be expensive as well as difficult.

Toile can be made using either pattern making or draping depending upon the relevant methods. In the Figure 1 traditional garment *choga* has been taken as an inspiration.



Figure 1: A Toile Using Pattern Making, for a Historical Inspiration (*Choga*) (Goswamy) from a Project on Using Tradition Indian Patternmaking by (Khar and Ayachit, 2013)

The *tool* has been developed using a reference pattern from the book “Indian Costumes” by (Goswamy, Krishna and Dundh, 1993). Though the inspiration is a traditional garment, however it has been contemporized considering the requirement of the project by (Khar and Ayachit, 2013). Muslin is used to develop the toile because the final fabric choice is *mangalgiri*, handloom fabric from Karnataka.

Stitched toile is checked for fit, the proportions of the garment and details and fall of the fabrics the same way as in pattern making method. It is then made into a sample with actual fabric as per the sketch.

PROTOTYPE

Exploration of pattern making and draping once the design is approved as a sketch. At this point no changes are made to the initial idea or the choice of source of inspiration; however, designers may occasionally want to modify the details. Once the designer is satisfied, the range of prototype garments is evaluated by the design team. This **evaluation** can sometimes result in **the redesign** of the garment. So do not be overly attached to the final design! Evaluation and Redesign are important stages of the process. After an internal evaluation these are then presented to buyers to obtain approvals and orders before going into production. Figure 3 shows the shows the final garment made after evaluation prototype shown in the Figure 2



Figure 2: A Test Fit Using Pattern Making for a Historical Inspiration (*Choga*) from a Project on Using Tradition Indian Patternmaking (Khar and Ayachit, 2013)



Figure 3: Example of Using Draping as a Method to Develop Toile from a Project by Harshita Chopra First Three Pictures on the Left Hand Side are Toiles Develop for the Final Garments Shown on Right Three Pictures

Draping techniques using a dress form is a three dimensional approach to translate your ideas into shapes (Seivewright, 2007). In figure 3 draping is used as a medium to make toiles. The inspiration in this project is Grecian goddess and the concept is seam less construction where nothing is stitched. Since the final fabric chosen is polyester based

with a good drape; so the toiles were made using fabric with similar properties however cheaper in price. Toiles were checked to see the fit and look on the models. Since the entire garment is seamless brooches and pins were used as fastenings which also served as detailing as you can see in the final garment. Whatever problems faced in the toiles were taken care in the final garments

TOILE CRITIQUE

Once the toile is ready it is either put on the dress form or a live model. In design houses where no of pieces are less it is directly corrected by the design team. The toile is put on the live model to check the look and fall of the garment and evaluated in terms of construction and finishing. In academic institutes' student face the jury or either consults the technical faculty in terms of any alterations to be considered. In case of mass productions fit samples are made and sent to the clients. In all the above three cases the toiles are inspected and corrections are suggested in general as a written record. The changes are further made in the patterns, detailing trims etc. where ever necessary.

The changes are made after the toile critique in the pattern e. g if the length of the garment has to be reduced the alterations are done in the patterns. Any additions or subtraction is to be done; they are made in the working pattern. In case of minor changes the new sample is not constructed, however, if the changes are major new sample is made and checked once again. The pattern with these alterations is called working pattern. The pattern graded for the sizes required with all the details along with the seam allowances, notches are called production pattern

CONCLUSIONS

In order to make a garment fit properly, it is important to have an understanding of the human body. The most important factor of successful design, fit and balance is a correct distribution of the waist suppression. This is the method used in order to cut or smoothen away the excess fabric at the waist. The principle involve is that a curve is longer than a straight line between the two given points. This being so, length must be allowed for and provided to enable the garment to follow the natural curves of the figure. Reducing fabric just at the side seams will result in incorrect fitting as the figure requires, the excess amount to be reduced on the side, back and front to allow for the bust curves and curve of the back.

In order to make a garment fit the figure shapes, clearly, following two methods can be used

- Flat pattern making
- Draping

After making the patterns it is transferred on the fabric and a sample is stitched which is further corrected, this sample is called toile. Toile is evaluated for stitching, fitting and looks. The changes are done in the pattern for further use.

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